CLAIMS

1. A yeast promoter which comprises at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4, wherein the promoter is operative to express a nucleic acid molecule encoding a polypeptide when operably linked to said nucleic acid molecule.

2. The yeast promoter of claim 1, wherein the promoter comprises at least 50 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

3. The yeast promoter of claim 1, wherein the promoter comprises at least 100 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

4. The yeast promoter of claim 1, wherein the promoter comprises at least 200 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

5. The yeast promoter of claim 1, wherein the promoter comprises at least 300 contiguous nucleotides of an isolated and purified polynucleotide selected

from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

6. The yeast promoter of claim 1, wherein the promoter comprises at least 400 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

7. A yeast promoter which comprises an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

8. A yeast promoter fragment which comprises at least 17 contiguous nucleotides of a polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4, wherein the fragment has promoter activity as determined by the steps of:

(a) cloning the fragment into a yeast expression vector, wherein the fragment is operably linked to a reporter gene;

(b) transforming yeast cells with the yeast expression vector;

(c) growing the yeast cells in yeast cell culture under conditions favorable for expression of the reporter gene; and

(d) assaying the yeast culture for a reporter protein expressed by the reporter gene;

wherein expression of the reporter gene indicates the fragment has promoter activity.

9. A yeast expression vector comprising the yeast promoter of claim 1.

10. The yeast expression vector of claim 9 wherein the yeast expression vector is selected from the group consisting of pYLR110P+luc, pYMR251AP+luc, pYMR107P+luc, pZEO1P+luc, pYLR110P, pYMR251AP, pYMR107P, and pZEO1P.

11. The yeast expression vector of claim 9 wherein activity of the promoter is controlled by varying the level of a non-fermentable carbon source in a medium of yeast cells in culture, wherein the yeast cells are transformed with said yeast expression vector.

12. The yeast expression vector of claim 11 wherein the non-fermentable carbon source is ethanol.

13. A yeast expression vector comprising a yeast promoter which comprises at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:4, wherein the promoter is operative to express a nucleic acid molecule encoding a polypeptide when operably linked to said nucleic acid molecule, wherein promoter activity is controlled by varying the level of a fermentable carbon source in a medium of yeast cells in culture, wherein the yeast cells are transformed with said yeast expression vector.

14. The yeast expression vector of claim 13 wherein the fermentable carbon source is glucose.

15. A yeast expression vector comprising a yeast promoter which comprises at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:4, wherein the promoter is operative to express a nucleic acid molecule when operably linked to said nucleic acid molecule, wherein promoter activity is controlled by varying the level of a fermentable carbon source and a non-fermentable carbon source in a medium of yeast cells in culture, wherein the yeast cells are transformed with said yeast expression vector.

16. The yeast expression vector of claim 15 wherein the fermentable carbon source is glucose.

17. The yeast expression vector of claim 15 wherein the non-fermentable carbon source is ethanol.

18. A yeast cell transformed with the yeast expression vector of claim 9.

19. A yeast cell transformed with the yeast expression vector of claim 10.

20. A method for producing a polypeptide comprising the steps of:

(a) constructing a yeast expression vector wherein a nucleic acid encoding the polypeptide is controlled by the yeast promoter of claim 1;

(b) transforming a culture of yeast cells with the yeast expression vector;

(c) maintaining the yeast cells in culture so that the polypeptide is expressed; and

(d) recovering the polypeptide.

21. A method for producing a polypeptide comprising the steps of:

(a) cloning a nucleic acid molecule encoding the polypeptide into an expression vector selected from the group consisting of pYLR110P+luc, pYMR251AP+luc, pYMR107P+luc, pZEO1P+luc, pYLR110P, pYMR251AP, pYMR107P, and pZEO1P, wherein the nucleic acid molecule is operably linked to a promoter of the expression vector;

(b) transforming a culture of yeast cells with the yeast expression vector;

(c) maintaining the yeast cells in culture so that the polypeptide is expressed; and

(d) recovering the polypeptide.

22. A method for producing a polypeptide comprising the steps of:

(a) constructing a yeast expression vector wherein a nucleic acid molecule encoding the polypeptide is controlled by a yeast promoter which comprises at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:4;

(b) transforming a culture of yeast cells with the yeast expression vector;

(c) maintaining the yeast cells in culture medium and controlling the expression of the nucleic acid molecule encoding the polypeptide by varying the level of a fermentable carbon source in the culture medium; and

(d) recovering the polypeptide.

23. The method of claim 22 wherein the fermentable carbon source is glucose.

24. A method for producing a polypeptide comprising the steps of:

(a) constructing a yeast expression vector wherein a nucleic acid molecule encoding the polypeptide is controlled by the yeast promoter of claim 1;

(b) transforming a culture of yeast cells with the yeast expression vector;

(c) maintaining the yeast cells in culture medium and controlling the expression of the nucleic acid molecule encoding the polypeptide by varying the level of a non-fermentable carbon source in the culture medium; and

(d) recovering the polypeptide.

25. The method of claim 24 wherein the non-fermentable carbon source is ethanol.

26. A method for producing a polypeptide comprising the steps of:

(a) constructing a yeast expression vector wherein a nucleic acid molecule encoding the polypeptide is controlled by a yeast promoter which comprises at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:4;

(b) transforming a culture of yeast cells with the yeast expression vector;

(c) maintaining the yeast cells in culture medium and controlling the expression of the nucleic acid molecule encoding the polypeptide by varying the level of a fermentable carbon source and a non-fermentable carbon source in the culture medium; and

(d) recovering the polypeptide.

27. The method of claim 26 wherein the fermentable carbon source is glucose.

28. The method of claim 26 wherein the non-fermentable carbon source is ethanol.

29. A method of identifying a promoter fragment, wherein the fragment has promoter activity comprising the steps of:

(a) generating a fragment comprising at least 17 contiguous nucleotides of an isolated and purified polynucleotide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4;

(b) cloning the fragment into a yeast expression vector, wherein the fragment is operably linked to a reporter gene;

(c) transforming yeast cells with the yeast expression vector;

(d) growing the yeast cells in yeast cell culture under conditions favorable for expression of the reporter gene; and

(e) assaying the yeast culture for a reporter protein expressed by the reporter gene;

wherein expression of the reporter gene indicates the fragment has promoter activity.